

1. (Twice Amended) An electrical heater comprising:

a substrate;

a plurality of electrical terminals, including a first electrical terminal, a second electrical terminal, a third electrical terminal and a fourth electrical terminal;

first and second electrodes disposed on the substrate in spaced apart relation, each of the first and second electrodes having first and second power application ends, the first electrical terminal in electrical contact with the first power application end of the first electrode, the second electrical terminal in electrical contact with the second power application end of the first electrode, the third electrical terminal in electrical contact with the first power application end of the second electrode and the fourth electrical terminal in electrical contact with the second power application end of the second electrode;

a first adjacent portion of the first and second electrodes having corresponding interdigitated electrode portions protruding therefrom, and another adjacent portion of the first and second electrodes devoid of interdigitated electrode portions;

a thermistor material electrically interconnecting the first and second electrodes; and

a voltage source connected to the first, second, third and fourth electrical terminals such that a summation of electrical paths between adjacent portions of the first and second electrodes is substantially the same from the first power application ends of the electrodes to the second power application ends of the electrodes.

6. (Twice Amended) An electrical heater comprising:

a substrate;

a plurality of electrical terminals, including a first electrical terminal, a second electrical terminal, a third electrical terminal and a fourth electrical terminal;

first and second electrodes disposed on the substrate in spaced apart relation,

128 the first and second electrodes each having first and second opposite end portions located at a common termination zone on the substrate, the first electrical terminal in electrical contact with the first opposite end portion of the first electrode, the second electrical terminal in electrical contact with the second opposite end portion of the first electrode, the third electrical terminal in electrical contact with the first opposite end portion of the second electrode and the fourth electrical terminal in electrical contact with the second opposite end portion of the second electrode,

the first and second electrodes having interdigitated electrode portions protruding therefrom; and

a thermistor material electrically interconnecting the first and second electrodes.

8. (Twice Amended) An electrical heater, comprising:

a substrate;

a plurality of electrical terminals;

129 a plurality of first, second and third electrodes disposed on the substrate in spaced apart relation,

the second electrode located between the first and third electrodes,

the first, second and third electrodes each having opposite end portions located at a common termination zone of the substrate, each opposite end portion of each electrode having a corresponding different one of the plurality of electrical terminals connected thereto,

a thermistor material electrically interconnecting the first, second and third electrodes, and

B³ a voltage source including switch means for directing a more positive first voltage to at least one first end of at least one electrode and a less positive second voltage to at least one second end of at least one electrode.

16. (Twice Amended) An electrical heater, comprising:
a substrate;
a plurality of first, second and third electrodes disposed on the substrate in spaced apart relation;
the second electrode located between the first and third electrodes, the second electrode being wider than the first and third electrodes;
BA the first, second and third electrodes each having opposite end portions located at a common termination zone of the substrate;
a thermistor material electrically interconnecting the first, second and third electrodes;
and
a voltage source including switch means for directing a more positive first voltage to at least one first end of at least one electrode and a less positive second voltage to at least one second end of at least one electrode.

20/ 17. (Twice Amended) An electrical heater comprising:
a substrate;
a plurality of electrical terminals, including a first electrical terminal, a second electrical terminal, a third electrical terminal and a fourth electrical terminal;
B³ first and second electrodes disposed on the substrate in spaced apart relation, each electrode having first and second power application ends, the first electrical terminal in

electrical contact with the first power application end of the first electrode, the second electrical terminal in electrical contact with the second power application end of the first electrode, the third electrical terminal in electrical contact with the first power application end of the second electrode and the fourth electrical terminal in electrical contact with the second power application end of the second electrode;

B3
a spacing between some adjacent portions of the first and second electrodes different than a spacing between other adjacent portions of the first and second electrodes;

a thermistor material electrically interconnecting the first and second electrodes; and

a voltage source connected to the power application ends such that a summation of electrical paths between adjacent portions of the first and second electrodes is substantially the same from the first power application ends of the electrodes to the second power application ends of the electrodes.

REMARKS:

At the time of the Office Action, claims 1-18 and 20-23 were pending and considered by the Examiner. Claim 16 was objected to, but indicated to be allowable. Claims 1-18 and 20-23 were rejected. Pursuant to this Amendment, claims 1, 6, 8, 16 and 21 have been amended. Following entry of the Amendment, claims 1-18, and 20-23 remain pending. Reconsideration and allowance are respectfully requested.

Responsive to the rejection of claims 3, 4, 6-20, 22 and 23 under 35 U.S.C. § 112, second paragraph, Applicants respectfully traverse the rejection.

Relative to claims 3, 6 and 22, the Examiner opines that it is unclear what zone or portion defines a common termination zone. Applicants respond by drawing the Examiner's attention to page 5, lines 12-18 of the specification, wherein a common termination zone is